What is claimed is:

1. An optical network with at least two nodes comprising:

an optical fiber;

at least two active fiber-bays per node optically coupled to said fiber; and

at least one redundant fiber-bay per node optically coupled to said fiber,

wherein when an active fiber-bay of said at least two active fiber-bays fails, said network changes from said failed fiber-bay to a redundant fiber-bay of said at least one redundant fiber-bay, and

wherein the number of said at least one redundant fiber-bays is less than the number of said at least two active fiber-bays.

2. The network of claim 1, wherein the fiber-bays comprise redundant channel equipment and active channel equipment, and wherein when an active channel equipment fails within a first fiber-bay, said first fiber-bay changes from said failed channel equipment to said redundant channel equipment.

3. The network of claim 2, wherein there are 2 redundant channel equipment per 254 active channel equipment.

4. The network of claim 2, wherein there are 2 redundant channel equipment per 46 active channel equipment.

5. The network of claim 2, wherein when the number of failed channel equipment exceeds the number of redundant channel equipment provided within a given fiber-bay, the network changes to a redundant fiber-bay.

6. The network of claim 1, wherein there is one redundant fiber-bay per eight active fiber-bays.

7. The network of claim 1, wherein the ratio of active fiber-bays to redundant fiber-bays is one of 6:1 and 4:1.

8. The network of claim 1, wherein the optical fiber comprises:

a service transmit optical fiber;

a protect transmit optical fiber;

a service receive optical fiber; and

a protect receive optical fiber,

wherein said network changes from said service transmit optical fiber to said protect transmit optical fiber when said service transmit optical fiber fails,

wherein said network changes from said service receive optical fiber to said protect receive optical fiber when said service receive optical fiber fails.

9. The network of claim 1, wherein the optical network is a submersible optical network.

10. The network of claim 8, wherein when a connection fails, the network changes fiber-bays after waiting a predetermined amount of time after changing optical fiber.

11. The network of claim 2, wherein when a connection fails, the network changes channel equipment after waiting a predetermined amount of time after changing fiber-bays.

12. An optical network with at least two nodes comprising:

an optical fiber comprising:

a service transmit optical fiber;

a protect transmit optical fiber;

a service receive optical fiber; and

a protect receive optical fiber; and

at least two active fiber-bays per node optically coupled to said fiber; and

at least one redundant fiber-bay per node optically coupled to said fiber,

wherein said fiber-bays comprise:

active channel equipment; and

redundant channel equipment,

wherein when a channel equipment fails, said fiber-bay changes from said failed channel equipment to said redundant channel equipment,

wherein when an active fiber-bay fails, said network changes from said failed fiber-bay to a redundant fiber-bay,

wherein the number of redundant fiber-bays is less than the number of active fiber-bays,

wherein said network changes from said service transmit optical fiber to said protect transmit optical fiber when said service transmit optical fiber fails, and

wherein said network changes from said service receive optical fiber to said protect receive optical fiber when said service receive optical fiber fails.

13. The network of claim 12, wherein there is one redundant fiber-bay per eight active fiber-bays.

14. The network of claim 12, wherein the ratio of active fiber-bays to redundant fiber-bays is one of 6:1 and 4:1.

15. The network of claim 12, wherein there are 2 redundant channel equipment per 254 active channel equipment.

16. The network of claim 12, wherein there are 2 redundant channel equipment per 46 active channel equipment.

17. The network of claim 12, wherein the optical network is a submersible optical network.

18. The network of claim 12, wherein when the number of failed channel equipment exceeds the number of redundant channel equipment provided within a given fiber-bay, the network changes to a redundant fiber bay.

19. A method of transporting a signal via optical fiber comprising the steps of:

transmitting an optical signal via an active optical fiber;

changing to a redundant optical fiber when a cut in an active optical fiber occurs; and

changing to a redundant fiber-bay when an active fiber-bay fails,

wherein the number of redundant fiber-bays is less than the number of active fiber-bays.

20. The method of claim 19 further comprising the step of: changing to redundant channel equipment within an active fiber-bay when an active channel equipment fails.

21. The method of claim 20, wherein there are 2 redundant channel equipment per 254 active channel equipment.

22. The method of claim 20, wherein there are 2 redundant channel equipment per 46 active channel equipment.

23. The method of claim 19, wherein there is one redundant fiber-bay per eight active fiber-bays.

24. The method of claim 19, wherein the ratio of active fiber-bays to redundant fiber-bays is one of 6:1 and 4:1.

25. The method of claim 20, further comprising the step of: changing to a redundant fiber-bay when the number of failed channel equipment exceeds the number of redundant channel equipment provided within a given fiber-bay.